November 4, 2023

Pink Diamonds and Demystifying Myths with Data

**Student Activity Worksheet: Demystifying myths with data**

**Directions:** Read the *Science News* article “[Seen Bigfoot or the Loch Ness Monster? Data suggest the odds](https://www.sciencenews.org/article/bigfoot-loch-ness-monster-data-pseudoscience) [are low](https://www.sciencenews.org/article/bigfoot-loch-ness-monster-data-pseudoscience)” and answer the questions as directed by your teacher.

Myths and data

1. **What do you know about myths? Think of other classes where you may have encountered myths. How do they originate?**
2. **How is a myth similar to or different from a scientific theory or hypothesis?**
3. **Based on the article, what is your understanding of data science?**
4. **What was the myth that data scientist Floe Foxon investigated?**
5. **To come up with a scientific question, what possible explanations for the myth did the data scientist explore?**
6. **The approach to answering scientific questions should be measurable and controllable, which means that an investigation using observation, scientific tools or computer simulations should be able to help answer the questions. Scientific answers are supported by empirical evidence gathered through research, experimental or engineering processes. What is one scientific**

question that could have been asked by the data scientist to inform the study described in the article? Explain the data he used to study his question.

1. **What did the data scientist conclude? Did he “bust” the myth and reveal whether the Loch Ness Monster was real? Explain.**

Measuring up a myth

1. **Think of a myth that you’ve heard. Based on your knowledge, what are probable or possible explanations for the myth?**
2. **What is a scientific question you could ask that could try to explain the phenomenon? (Refer to question 6 above for the definition of a scientific question.) Write a scientific question to**

determine the truth behind the myth.

1. **Explain the design of your research study. Will you collect data yourself or analyze an existing data set? What are some possible limitations of your research study?**
2. **Once you collect and analyze your data, how could you go about sharing it with others? Do you**

think your results would dispel the myth? Do you think it would be an easy or a difficult process to get communities to dispel myths? Explain.

1. **Write a brief description of how to “bust” a myth.**



**© Society for Science 2000–2023. All rights reserved.**